



USER MANUAL

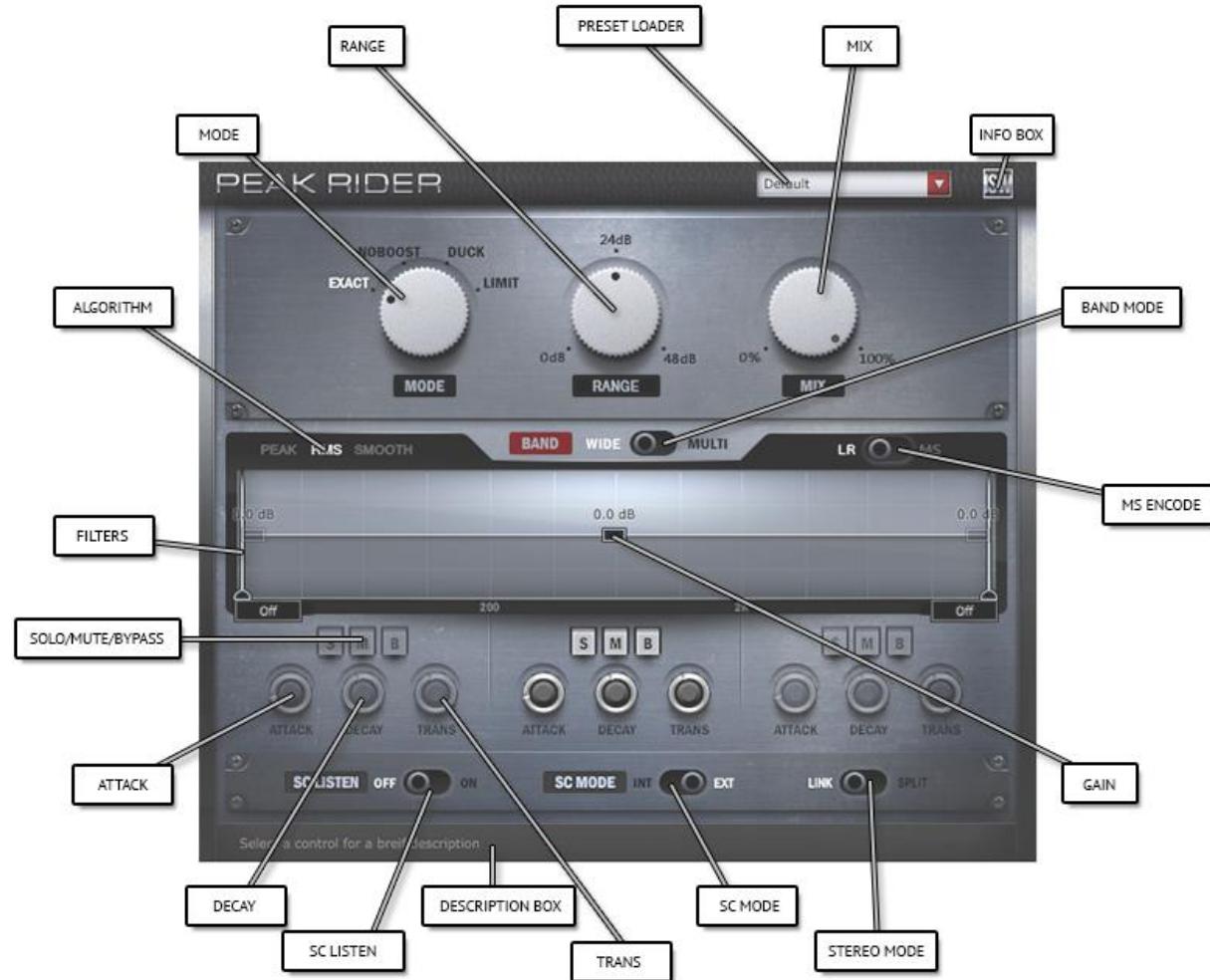
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PRODUCT DESCRIPTION:

Peak Rider is a flexible dynamic processor that rides the output level of a track by an amount based on a sidechain input. With different processing modes, multi-band processing, selectable crossover slopes, timing controls per-band, and a master mix control, Peak Rider opens brand new possibilities for mixing engineers.

GUI OVERVIEW:





PRESET LOADER menu allows you to load, save, and manage Peak Rider presets.

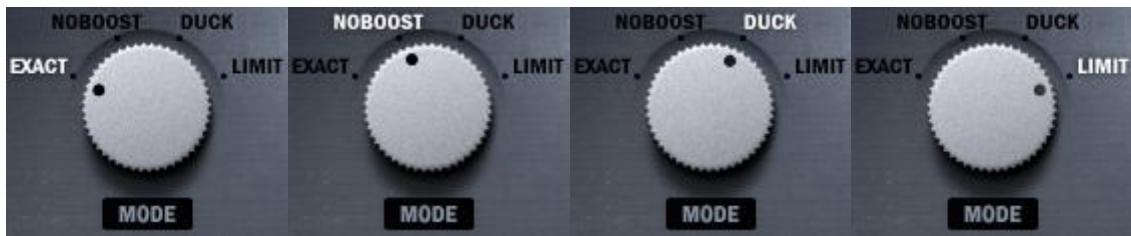


INFO BOX displays the installed version number of Peak Rider, registration information, and a web-link to <http://www.impactsoundworks.com>.

If the plugin is not registered, or it does not recognize the registration of the current system, a red button labeled “Unregistered” will be displayed, which when clicked will provide information on how to register the plugin.

If the plugin is registered, the name of the registration will be displayed in the center of the display box.

To show the **INFO BOX**, click once on the ISW icon. To hide it, click anywhere outside of the display box.



MODE knob changes the matching mode of Peak Rider.

- Range: Exact, Noboost, Duck, Limit
- Default: Exact

- **Exact Mode** rides the main input signal up or down to match the sidechain’s envelope to the main input’s envelope.

First the levels of the main input and sidechain input signals are analyzed. Then, gain is applied to the main input signal depending on the ratio of the sidechain envelope level versus the main input envelope’s level. The amount of gain applied is limited by the **RANGE** control.

To create an effective Exact Mode setting, start with an external or internal sidechain signal, and the timing controls set to their default values. Set the **RANGE** control to 24dB. Adjust the **ATTACK**

upward to soften the attack of the output signal. Adjust the **DECAY** and **TRANS** knobs to alter the decay characteristic of the output signal.

- **Nobooost Mode** rides the main input down only when the sidechain envelope drops below the main input's envelope.

First the levels of the main input and sidechain input signals are analyzed. Then, attenuation gain is applied to the main input signal depending on the ratio of the sidechain envelope level versus the main input envelope's level. The amount of gain applied is limited by the **RANGE** control. If the sidechain envelope level is greater than that of the main input envelope level, no gain change is applied.

To create an effective Nobooost Mode setting, start with an external or internal sidechain signal, and the timing controls set to their default values. Set the **RANGE** control to 24dB. Adjust the **ATTACK** upward to soften the attack of the output signal. Adjust the **DECAY** and **TRANS** knobs to alter the decay characteristic of the output signal. If an external sidechain is selected, use your DAW adjust the sidechain input signal send level until it is of similar level to the main input signal's level. If an internal sidechain is selected, adjust the filter controls to generate a difference between the main and sidechain signals. This will dynamically match the unfiltered main signal to the filtered sidechain signal.

- **Duck Mode** rides the main input up or down depending on the **GAIN** control and the ratio of the sidechain envelope level to the main input envelope level.

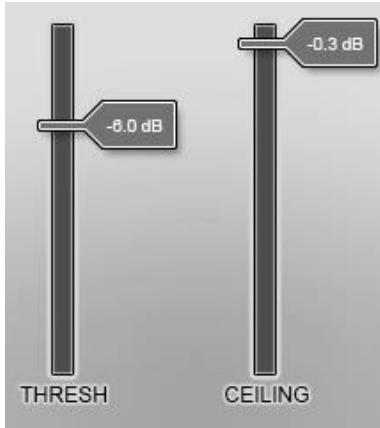
First the levels of the main input and sidechain input signals are analyzed. Then the main signal is boosted if the **GAIN** control is positive, or attenuated if the **GAIN** control is negative. The amount of boost/attenuation is determined by the level of the sidechain signal versus the main input signal. If the sidechain signal is zero, the amount of gain change will be 0dB. As the sidechain envelope level approaches the main input envelope level, the amount of gain will be faded between 0dB and the dB amount specified on the **GAIN** control, depending on the ratio of the envelopes. As the sidechain signal reaches or exceeds the main input envelope in level, the amount of gain will be limited to the amount specified on the **GAIN** control.

When the plugin is in Duck Mode, the **RANGE** knob will appear greyed out; this control is disabled in this mode. The range of attenuation/boost is instead controlled by the band **GAIN** control.

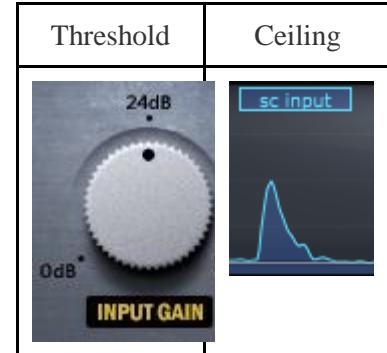
To create an effective Duck Mode setting, start with an external sidechain signal, and the band **GAIN** control set to 0dB. Set the envelope **ALGORITHM** to **Peak**, then set the timing controls to their default values. Adjust the send to Peak Rider's sidechain input inside of your DAW until the sidechain signal envelope level is equal to or above the dry input level. Once the sidechain signal is peaking near the dry input, adjust the band **Gain** control to a desirable effect level setting.

- **Limit Mode** operates much like a standard mastering limiter, with the output-ceiling set to the sidechain's envelope.

 Standard Mastering Limiter



 Peak Rider



First, the main input signal is boosted by **INPUT GAIN** and limited to 0dBFS. The limited signal is then expanded by the sidechain envelope's level.

Because the input signal is multiplied by the sidechain signal's envelope (as opposed to being matched directly to it), this mode is very well-suited for gating and matching of material that is dynamic-sensitive. If the main-input signal doesn't cross the input limiter's 0dBFS threshold, the sidechain signal expansion stage will have the dynamic range of the sidechain signal and the main input signal combined, creating a very strong expansion effect.

To create an effective Limit Mode setting, start with an external sidechain signal, and the Input Gain control set to 0dB. Set the timing controls to their default values and slowly push the Input Gain knob upward until the main-input signal is being limited into the sidechain signal by a moderate amount. If the Input Gain is set too low, the signal may be too dynamic. If Input Gain is set too high, you may notice parts of the signal emphasized that should be expanded instead.



RANGE knob limits the absolute amount of gain change.

- Range: 0 dB to 48 dB

- Default: 24 dB

In Exact Mode, the Range knob controls the amount of gain + or - (12 dB as a value allows 24 dB of gain-change range). In Noboost Mode, value specifies the limit of the amount of negative gain that may be applied. This control is disabled in when the plugin is in Duck Mode.

This control is replaced by **Input Gain** when the plugin is in Limit Mode.



INPUT GAIN knob determines how much gain is applied to the main input signal before it is limited, and then expanded by the sidechain signal.

- Range: 0 dB to 48 dB
- Default: 24 dB

This control is inversely synonymous with a standard mastering limiter's threshold. That is, setting this control to +24 dB would be equivalent to a threshold of -24 dB of the other.

This control is only enabled when in Limit Mode. For other modes, this control is replaced by **Range** control.



MIX knob controls the blend of processed signal to unprocessed signal.

- Range: 0% to 100%
- Default: 50%

If Band Mode is set to Multiband mode, the plugin may exert phase shift at active crossover frequencies.

PEAK RMS SMOOTH

ALGORITHM switch specifies which envelope-generation algorithm will be used.

- Range: Peak, RMS, Smooth
- Default: RMS

▪ **Peak** algorithm is a real-time, fast peak-meter style envelope designed for controlling transient material. The main input envelope's attack is locked at the fastest setting, while the sidechain envelope's attack is controlled by the **Attack** knob.

▪ **RMS** algorithm is a real-time, smooth envelope designer that focuses more on tonal and elongated signals, and leaves transients less affected. The main input envelope's attack is locked at 1.0 millisecond, while the sidechain envelope's attack is controlled by the **Attack** knob.

Setting the sidechain's attack 1.0 millisecond will create an equal attack timing to the main input envelope; setting it below that cause the sidechain envelope to attack in less time than the main envelope, and will create transient-emphasizing effects

▪ **Smooth** algorithm is a look-ahead (latency), windowed-average envelope generator that is designed for time-accurate envelope generation over a specified amount of milliseconds. This algorithm is very effective on tonal instruments and for applications where tonal retention is desired.

Setting the plugin to this algorithm will induce latency, making this mode unsuitable for live applications.

BAND WIDE MULTI

BAND MODE switch determines if the plugin is operating in Wideband or Multiband mode.

- Range: Wide, Multi
- Default: Wide

This state of this control affects the function of the **FILTER** controls.

While in Wideband mode, the **FILTER** controls determine the frequencies that the sidechain signal will be filtered. In Multiband mode, the **FILTER** controls determine which crossover frequencies the input signals will be split at.

LR (O) MS

MS ENCODE switch determines if the plugin processes the left and right channels normally or while encoded in a mid/side configuration.

- Range: LR, MS
- Default: LR



GAIN controls the amount of output gain applied to the respective band.

- Range: -30 dB to 30 dB
- Default: 0 dB

While **MODE** is set to **Duck**, this control determines the range of boost/attenuation. See **MODE** description for details.



FILTER controls determine the frequencies the sidechain input signal is filtered at.

- Range: 20Hz to 20,000Hz
- Default: Off

Note: Editing a text value that contains the letter 'k' will change the interpretation of the entered value from 'Hz' to 'kHz'.

If the frequency specified is too low or high, the filter will be set to 'Off' and deactivated. A deactivated filter will not affect Audio.

The filters may exert a phase shift at the filter frequencies (except in **LINEAR PHASE** mode).

While **BAND MODE** is set to **Multi**, these controls determine the frequency of the crossovers.



SOLO mutes the output of other, non-soloed bands.

MUTE silences the output of the band.

BYPASS skips match-processing of the band.

- Range: Normal, Soloed/Muted/Bypassed
- Default: Normal



ATTACK/LOOK controls the shape of the output signal's attack.

ALGORITHM:

- **Peak**

- Range: 0 ms to 300ms
- Default: 0 ms

- **RMS**

- Range: 0 ms to 300ms
- Default: 1 ms

- **Smooth**

- Range: 0.2 ms to 15ms
- Default: 7.5 ms

This control is affected by **ALGORITHM**. See **ALGORITHM** description for details.



DECAY controls the length of the output signal's decay.

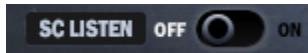
- Range: 15 ms to 500ms
- Default: 136.3 ms



TRANS controls the shape of the output signal's decay.

- Range: 15 ms to 500ms
- Default: 136.3 ms

This control specifies the decay length of the main input envelope, while the **DECAY** control specifies the decay of the sidechain envelope. If this control is set to a greater value than **DECAY**, the output will have deemphasized sustain. If this control is set to a value less than **DECAY**, the output will have an exaggerated sustain.



SC LISTEN replaces the output with the sidechain signal.

- Range: Off, On
- Default: Off



SC MODE determines if the sidechain signal is routed to the plugin externally, or a copy of the main input signal.

- Range: Int, Ext
- Default: Ext



STEREO MODE determines if the stereo channels should have linked processing to retain stereo imagery, or processed individually as discrete signals.

- Range: Link, Split
- Default: Link



SPECTRUM GAIN controls the visual magnification of the Spectrum and Envelope views.

- Range: 0 to 100
- Default: 50

This control is located in the Filter Settings window which is accessible via **Right-Clicking the Filter View**.



SPECTRUM/ENVELOPE view switch controls whether the Spectrum view or Envelope view is displayed onscreen.

- Range: Spectrum, Envelope
- Default: Spectrum

This control is located in the Filter Settings window which is accessible via **Right-Clicking the Filter View**.



LINEAR PHASE determines whether the crossovers in Multiband mode are real-time filters minimum phase filters or delayed linear-phase filters.

- Range: Minimum Phase, Linear Phase
- Default: Minimum Phase

This control is located in the Filter Settings window which is accessible via Right-Clicking the Filter View.

This control only affects the plugin while **BAND MODE** is set to Multiband.

Setting the plugin to use linear-phase filters will induce latency, making this mode unsuitable for live applications.

This control is located in the Filter Settings window which is accessible via **Right-Clicking the Filter View**.



FILTER SLOPE specifies the slope of all minimum-phase filters.

- Range: 6 dB, 12 dB, 24 dB
- Default: 6 dB

This control is located in the Filter Settings window which is accessible via **Right-Clicking the Filter View**. This control has no effect on linear-phase filters.

NOTE: While in Multiband mode and while using minimum-phase filters, slope settings ‘12 dB’ and ‘24 dB’ will always exert a phase shift at the crossover frequencies. The ‘6 dB’ setting will not exert a phase shift while all active band gains are at unity with one another.

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